

CLAIM AMENDMENTS

1 1. (currently amended) A method of browsing content
2 available on a communication network, the method comprising the
3 steps of:

4 providing a navigation tree comprising a semantic,
5 hierarchical structure [[,]] and having one or more paths
6 associated with content of a conventional markup language document
7 and a grammar comprising vocabulary including one or more keywords;
8 receiving a request in form of speech to access the
9 content;

10 determining if the speech request for accessing the
11 content includes one of the keywords of the vocabulary to find a
12 match therewith; and

13 responsive to the request, traversing a path in the
14 navigation tree to retrieve content related to the one keyword in
15 the speech request only [[,]] if the request includes at least one
16 keyword of the vocabulary.

1 2. (currently amended) The method of claim 1, wherein
2 further comprising the step of:

3 dynamically changing the vocabulary dynamically changes
4 based on the path traversed in the navigation tree.

1 3. (currently amended) The method of claim 1, wherein
2 the grammar further includes one or more rules corresponding to
3 said one or more keywords of the vocabulary, the method further
4 comprising the step of:

5 retrieving the content according to one or more rules
6 corresponding to ~~said at least~~ the one keyword included in the
7 request.

4, 5, 6. (canceled)

1 7. (currently amended) The method of claim [[6]] 1
2 further comprising the step of:

3 providing a prompt including one or more other keywords
4 of the vocabulary if a match for the one keyword is not found.

1 8. (currently amended) The method of claim 7 further
2 comprising the step of:
3 traversing a path in the navigation tree to retrieve
4 content related to a keyword selected from said one or more other
5 keywords included in the prompt.

1 9. (currently amended) The method of claim 1 further
2 comprising the step of:

3 narrowing the vocabulary of the grammar if the request
4 does not include at least one keyword of the vocabulary.

1 10. (currently amended) The method of claim 9 further
2 comprising the step of:

3 providing a prompt including one or more keywords of the
4 narrowed vocabulary; and

5 traversing a path in the tree to retrieve content related
6 to a keyword selected from said one or more keywords [[in]] of the
7 narrowed vocabulary.

1 11. (currently amended) The method of claim 10 further
2 comprising the step of:

3 expanding the vocabulary of grammar based on the path
4 traversed in the navigation tree.

1 12. (currently amended) The method of claim 1 wherein
2 the conventional markup language is Hyper Text Markup Language.

1 13. (withdrawn) A method performed on a computer for
2 browsing content available from a communication network comprising:

3 receiving a document containing content in a conventional
4 markup language format and a style sheet for the document;

5 generating a document tree from the document;

6 generating a style tree from the style sheet, the style
7 tree comprising a plurality of style sheet rules;

8 converting the document tree into a navigation tree using
9 the style sheet rules, navigation tree associated with a vocabulary
10 having one or more keywords, the navigation tree including one or

11 more content nodes and routing nodes defining paths of the
12 navigation tree, each content node including some portion of the
13 content and a keyword associated with the respective portion of the
14 content, each routing node including at least one keyword
15 referencing other nodes in the navigation tree;
16 receiving a request to access the content; and
17 traversing a path in the navigation tree, adding keywords
18 included in any node along the traversed path to the vocabulary in
19 response to the request.

1 14. (withdrawn) The method of claim 13 wherein the
2 request is in the form of speech.

1 15. (withdrawn) The method of claim 13 comprising:
2 generating a first speech recognition result indicating
3 whether the request includes any keyword of the vocabulary;
4 assigning a first confidence score to the first speech
5 recognition result; and
6 rejecting the request, if the first confidence score is
7 below a rejection threshold.

16 and 17. (canceled)

1 18. (withdrawn) The method of claim 15 comprising:

2 providing a first group of keywords included in the
3 vocabulary from which to select if the first confidence score is
4 below the rejection threshold;

5 generating a second speech recognition result in response
6 to a selection from the first group; and

7 assigning a second confidence score to the second speech
8 recognition result.

1 19. (withdrawn) The method of claim 15 wherein
2 generating comprises:

3 deriving a first phonetic pronunciation based on the
4 request;

5 deriving a second phonetic pronunciation based on at
6 least one keyword of the vocabulary; and

7 comparing the first phonetic pronunciation with the
8 second phonetic pronunciation.

1 20. (withdrawn) A method of claim 19 further comprising
2 selecting a keyword from the vocabulary based on said comparison.

1 21. (currently amended) A method of browsing content
2 available on a communication network, the method comprising the
3 steps of:

4 navigating a navigation tree derived from a document
5 having content in conventional markup language format, the
6 navigation tree having a plurality of nodes, ~~the navigation tree~~

7 and being associated with a grammar comprising a vocabulary and
8 corresponding rules; ~~, said method comprising:~~

9 visiting a first node in the navigation tree;
10 moving from the first node to a second node in the
11 navigation tree in response to [[the]] a user request in form of
12 speech, the second node having at least one keyword identifying
13 content held in the second node; and

14 expanding the grammar by adding to the vocabulary the
15 keyword of the second node.

22. (canceled)

1 23. (currently amended) The method of claim 21, further
2 comprising the step of:

3 providing an error message [[,]] if the user request is
4 not recognized.

1 24. (currently amended) The method of claim 21, further
2 comprising the step of:

3 comparing the request against to one or more keywords
4 included in the vocabulary; and

5 recognizing the request if the request is sufficiently
6 similar to one of the keywords.

1 25. (currently amended) The method of claim 24, wherein
2 recognizing comprises the substeps of:

3 selecting a number of keywords from the vocabulary that
4 are similar to the request;

5 for each selected keyword, assigning a value to the
6 selected keyword based on how similar selected keyword is to the
7 request; and

8 recognizing the keyword with the highest value.

1 26. (currently amended) The method of claim 25, further
2 comprising resolving an ambiguity in recognizing the request if the
3 selected keyword with the highest value is below a recognition
4 threshold.

1 27. (currently amended) The method of claim 26, wherein
2 resolving comprises the step of prompting the user to choose from
3 one of the selected keywords.

1 28. (currently amended) The method of claim 21,
2 comprising the step of:

3 expanding the grammar by adding to the vocabulary any
4 keywords associated with [[the]] nodes proximate the first node.

1 29. (original) The method of claim 21, wherein the
2 grammar is generated after the first node is visited.

1 30. (original) The method of claim 21, wherein the
2 grammar is generated before the first node is visited.

1 31. (currently amended) The method of claim 21, further
2 comprising the step of:

3 building a greeting based on the keyword of the second
4 node.

1 32. (currently amended) The method of claim 21, further
2 comprising the steps of:

3 generating a prompt based on the portion of the content
4 included in the first node; and

5 playing the prompt to provide a plurality of options to
6 select from the portion of the content included in the first node.

1 33. (original) The method of claim 21, wherein the
2 first node is a routing node which refers to other nodes in the
3 navigation tree.

1 34. (currently amended) The method of claim 33, further
2 comprising the steps of:

3 generating a prompt based on the other nodes referred to
4 by the first node; and

5 playing the prompt to provide a plurality of options for
6 moving from the first node to one of the other nodes.

1 35. (currently amended) The method of claim 21, wherein
2 the first node is a form node associated with one or more editable
3 fields.

1 36. (currently amended) The method of claim 35, further
2 comprising the step of:
3 generating a prompt based on the editable fields.

1 37. (currently amended) The method of claim 36, further
2 comprising the step of:
3 playing the prompt to provide a plurality of options for
4 selecting from the editable fields.

1 38. (currently amended) The method of claim 36, further
2 comprising the step of:
3 moving through the editable fields in a prearranged
4 order.

1 39. (currently amended) A method of browsing contact
2 available on a communication network, the network comprising the
3 steps of:
4 navigating a navigation tree derived from a document
5 having content in conventional markup language format, the
6 navigation tree having a plurality of nodes, ~~the navigation tree~~
7 and being associated with a grammar comprising a vocabulary and
8 corresponding rules; ~~said method comprising:~~

9 visiting a first node in the navigation tree;
10 moving from the first node to a second node in the
11 navigation tree in response to [[the]] a user request in form of
12 speech, the second node having at least one keyword identifying
13 content in the second node; and

14 expanding the grammar by adding to the vocabulary the
15 keyword of the second node;

16 indicating that the first node is visited by providing a
17 first message; and

18 indicating that no user request has been received by
19 providing a second message.

1 40. (currently amended) The method of claim 39, further
2 comprising the step of:

3 providing a third message with one or more options if no
4 user request is received in response to the second message.

1 41. (currently amended) The method of claim 39, wherein
2 the first node is a content node having at least a portion of the
3 content, the method further comprising the step of:

4 providing a third message with one or more options to
5 select from the portion of the content associated with the content
6 node.

1 42. (currently amended) The method of claim 39, wherein
2 the first node is a routing node which refers to the nodes of the
3 navigation tree, the method further comprising the step of:
4 providing a third message with one or more options for
5 moving to the other nodes.

1 43. (currently amended) The method of claim 42, wherein
2 the first node is a form node having one or more editable fields,
3 the method further comprising the step of:
4 providing a third message, with one or more options to
5 select from one or more editable fields.

1 44. (withdrawn) A method of navigating a routing node
2 in a navigation tree derived from a document having content
3 formatted in conventional markup language format, the navigation
4 tree having a default grammar and a plurality of nodes, each node
5 associated with one or more keywords, said method comprising:
6 visiting a first node in the navigation tree, the first
7 node referencing at least a second node;
8 generating a navigation grammar by adding to the default
9 grammar one or more keywords associated with the second node;
10 generating an output message based on said one or more
11 keywords; playing the output message;
12 waiting to receive a user request responsive to the
13 output message; matching the request against the keywords included
14 in the navigation grammar;

15 recognizing the request, if a match is found between the
16 request and one or more of the keywords included in the navigation
17 grammar;
18 rejecting the request, if a close match is not found; and
19 resolving ambiguities in the request, if the request is neither
20 recognized nor rejected.

1 45. (withdrawn) The method of claim 44, wherein the
2 navigation grammar includes rules corresponding to said one or more
3 keywords, the method further comprising:
4 visiting the second node based on navigation rules
5 corresponding with the keyword matched with the request, if the
6 request is recognized.

1 46. (withdrawn) The method of claim 45, wherein the
2 second node references at least a third node associated with one or
3 more keywords, said method further comprising:
4 expanding the navigation grammar by adding to the
5 navigation grammar the keywords associated with the third node.

1 47. (withdrawn) The method of claim 45, further
2 comprising:
3 narrowing the navigation grammar by deleting from the
4 navigation grammar the keywords associated with the second node;
5 and

6 expanding the navigation grammar by adding to the
7 navigation grammar keywords associated with the third node.

1 48. (withdrawn) The method of claim 44, further
2 comprising:

3 waiting to receive a user request regardless of whether
4 or not the output message is generated or played.

1 49. (withdrawn) The method of claim 45, further
2 comprising:
3 initializing a timeout counter when visiting the second
4 node.

1 50. (withdrawn) The method of claim 48, further
2 comprising:
3 playing a first timeout message, if a first time period
4 has passed and no user request is received; and
5 incrementing the timeout counter.

1 51. (withdrawn) The method of claim 50, further
2 comprising:
3 playing a second timeout message, if a second time period
4 has passed and no user request is received, wherein the second
5 timeout message is different from the first timeout message; and
6 incrementing the timeout counter.

1 52. (withdrawn) The method of claim 51, further
2 comprising:
3 playing a last resort timeout message, if the timeout
4 counter has reached a threshold value.

1 53. (withdrawn) The method of claim 45, further
2 comprising:
3 initializing a help counter when visiting the second
4 node.

1 54. (withdrawn) The method of claim 53, further
2 comprising:
3 playing a first help message, in response to a first help
4 request submitted while visiting the first node; and
5 incrementing the help counter.

1 55. (withdrawn) The method of claim 54, further
2 comprising:
3 playing a second help message, in response to a second
4 help request submitted while visiting the first node, wherein the
5 second help message is different from the first help message; and
6 incrementing the help counter.

1 56. (withdrawn) The method of claim 55, further
2 comprising:

3 playing a last resort help message, if the help counter
4 has reached a threshold value.

1 57. (withdrawn) The method of claim 45, further
2 comprising:
3 initializing the rejection counter when visiting the
4 second node.

1 58. (withdrawn) The method of claim 57, further
2 comprising:
3 playing a first rejection message, if the user request is
4 not accepted, while visiting the first node; and
5 incrementing the rejection counter.

1 59. (withdrawn) The method of claim 58, further
2 comprising:
3 playing a second rejection message, if the user request
4 is not accepted a second time, while visiting the first node;
5 incrementing the rejection counter; and
6 playing a last resort rejection message if the rejection
7 counter has reached a threshold.

1 60. (withdrawn) A method of navigating a form node in a
2 navigation tree derived from a document having content formatted in
3 conventional markup language format, the navigation tree having a
4 default grammar and one or more nodes, said method comprising:

5 visiting a first node in a navigation tree, said first
6 node referencing one or more fields, each field defined by at least
7 a keyword;

8 building a navigation grammar by adding to the default
9 grammar one or more keywords defining said one or more fields;
10 determining if the first node is navigable;

11 if the first node is navigable then performing the
12 following actions:

13 generating a first output message based on the keywords
14 defining the fields, providing the option to select from one or
15 more of said fields;

16 playing the first output message;

17 receiving a user request responsive to the first output
18 message; matching the request against the keywords included in the
19 navigation grammar;

20 recognizing the request, if a close match is found
21 between the request and one or more keywords included in the
22 navigation grammar;

23 rejecting the request, if a close match is not found;
24 resolving ambiguities in the request, if a match is not recognized
25 or rejected;

26 visiting a field defined by the keyword matched with the
27 request, if the request is recognized;

28 building a second output message based on the keyword
29 matched with the request, providing an option to edit the field
30 visited;

31 playing the second output message;
32 receiving a second user request to edit the field
33 visited, responsive to the second output message; and
34 editing the field visited in response to said second user
35 request.

1 61. (withdrawn) The method of claim 60, further
2 comprising:
3 if the first node is not navigable then performing the
4 following actions:
5 visiting said one or more fields;
6 building a second output message for a visited field
7 based on the keyword defining that field;
8 playing the second output message providing an option to
9 edit the field;
10 receiving a second user request to edit the field,
11 responsive to said second output message; and
12 editing the field in response to said second user
13 request.

1 62. (withdrawn) A method of navigating a content node
2 in a navigation tree derived from a document having content
3 formatted in conventional markup language format, the navigation
4 tree associated a default grammar, said method comprising:
5 visiting a first node in a navigation tree, said first
6 node referencing first content and a second content included in a

7 conventional markup language document, each content defined by at
8 least a keyword;

9 generating a navigation grammar by adding to the default
10 grammar keywords defining the first content and the second content;
11 playing the first content; and
12 playing the second content.

1 63. (withdrawn) The method of claim 62, further
2 comprising:

3 building an output message based on the keywords defining
4 the first content and the second content, providing the option to
5 select one of the contents; playing the output message;

6 receiving a user request responsive to the output
7 message;

8 matching the request against the keywords included in the
9 navigation grammar;

10 recognizing the request, if a match is found between the
11 request and one or more of the keywords included in the navigation
12 grammar and playing the content defined by the keyword matching the
13 request;

14 rejecting the request, if a close match is not found; and
15 resolving any ambiguities in the request, if the request is not
16 recognized or rejected.